69418

S/141/60/003/01/010/020
E032/E514

24,2120

AUTHORS: Gil'denburg, V.B. and Miller, M.A.

TITLE: On the Acceleration of a Plasma Bunch During its Passage Through a Nonuniform Electromagnetic Field

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, 1960, Vol 3, Nr 1, pp 97-101 (USSR)

ABSTRACT: In studying the motion of a plasma bunch in a nonuniform alternating electromagnetic field, the perturbation introduced by the plasma into the external field must be taken into account. Although these perturbations cannot be calculated in a general form the main features of the motion of a plasma bunch can be deduced from an analysis of a simple example. The example considered in the present paper is that of a plasma sphere. It is assumed that during its interaction with the field its characteristics remain unaltered, i.e. it behaves as an absolutely stable object. It is further assumed that the plasma is fully ionized and quasi-neutral and its effect on the field is equivalent to that of a medium with purely real (collisions are neglected) dielectric

Card 1/5

On the Acceleration of a Plasma Bunch During its Passage Through a Nonuniform Electromagnetic Field

constant which is given by

$$\varepsilon = 1 - (\omega_{пл}^2/\omega^2) = 1 - 4\pi Ne^2/m_e\omega^2$$

where e is the charge and m_e the mass of an electron, N is the electron concentration and ω is the angular frequency of the external field. Furthermore, the radius of the sphere a is considered to be small compared with a characteristic linear dimension L of the region of the nonuniform field. It is also considered to be small compared with the wavelength in free space ($\lambda = 2\pi/k = 2\pi c/\omega$) and in plasma ($\lambda_\varepsilon = \lambda/\sqrt{|\varepsilon|}$). These conditions are summarized in Eq (1). The perturbation of the field is then estimated on the dipole approximation and the nonrelativistic equation of motion for the bunch in an external field $\underline{E}(\underline{r})\, e^{i\omega t}$, $\underline{H}(\underline{r})\, e^{i\omega t}$ is written down in the form given by Eq (2), where b is given by the expression just below Eq (2), m_i is the

Card 2/5

On the Acceleration of a Plasma Bunch During its Passage Through a Nonuniform Electromagnetic Field

mass and Ze is the charge of an ion and $\underline{p}$ is the polarization vector (dipole moment per unit volume) which satisfies the condition given by Eq (3) and is given by Eq (4). The other parameters employed in Eq (4) are defined by Eq (5) and it is assumed that $\gamma \ll \omega, \omega_0$. The motion is assumed to take place in the weakly nonuniform field and the sphere passes through a distance L during a time interval containing a large number of the periods $2\pi/\omega$ and $2\pi/|\omega - \tilde{\omega}|$, where $\tilde{\omega} = \omega_0 + i\gamma_0/2$. Substituting Eq (4) into Eq (2) the solution of Eq (2) is written down in the form of a superposition of a rapidly oscillating and averaged motion. This is expressed by Eqs (6) to (8). Thus, the total average force per unit mass $\underline{F}_\Sigma$ is made up of two terms, namely, the potential force $\underline{F}_\nabla$, which is due to the nonuniformity of the modulus of the amplitude of the field and the force $\underline{F}_p$ which is due to the electro-

Card 3/5

On the Acceleration of a Plasma Bunch During its Passage Through a Nonuniform Electromagnetic Field

magnetic pressure. In order to estimate the relationship between $\underline{F}_{\nabla}$ and $\underline{F}_{p}$, the example is considered whether the amplitudes of the standing and travelling waves are the same and $E \simeq H$ and $\nabla \sim 1/L \simeq k$. Hence $F_p/F_{\nabla} \simeq \omega\gamma/|\omega^2 - \omega_o^2|$. This ratio is small except for frequencies close to ω_o. When $\omega = \omega_o$ the force F_{∇} becomes zero but at a small distance away from resonance, e.g. for $\Delta\omega \simeq \gamma$ the quantity F_{∇} reaches a maximum value of the order of F_p. When $\omega \gg \omega_o$, the force F_p becomes proportional to the total number of particles in the bunch and the acceleration of particles in the field of the standing wave is ω/γ times more effective than in the case of a travelling wave. The theory is then applied to a number of other cases:

Card 4/5 1) When F_p is negligible compared with F_{∇};

69413
S/141/60/003/01/010/020
E032/E514

On the Acceleration of a Plasma Bunch During its Passage Through a Nonuniform Electromagnetic Field

2) to estimate the velocity reached by a plasma bunch when it is ejected from a nonuniform field;
3) the effect of the alternating field on the polarization and
4) the passage of a fast bunch through a quasi-electrostatic field.
There are 8 Soviet references.

ASSOCIATION: Nauchno-issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific Radiophysical Institute of the Gor'kiy University)

SUBMITTED: October 20, 1959

Card 5/5

GIL'DENBURG, V.B.

Effect of the internal movement of heat on the polarizability of plasma clots. Zhur. eksp. i teor. fiz. 43 no.4:1394-1396 O '62. (MIRA 15:11)

1. Radiofizicheskiy institut Gor'kovskogo gosudarstvennogo universiteta.

(Plasma (Ionized gases))

AEC tr. 955-8 30 April

RESONANCE INTERACTION OF AN ELECTROMAGNETIC FIELD WITH HIGHER PLASMOID MULTIPOLE MOMENTS (USSR)

Gildenburg, V. B., and L. G. Kondrat'yev. Zhurnal tekhnicheskoy fiziki, v. 33, no. 3, Mar 1963, 301-305. S/057/63/033/003/007/021

The interaction of an electromagnetic field with a plasmoid is discussed in a theoretical study. The wavelengths of the field are assumed large both in free space and in plasma compared to the physical dimensions of the plasmoid. An expression is obtained describing the force acting on a plasmoid, with resonance excitation of its multipole moments taken into account. Several field configurations are considered, including axially symmetric fields, traveling waves, and standing waves. It is shown that multipole resonance effects can be considerable, particularly when the boundary layer, which is responsible for considerable energy losses as a result of plasma heating and which lowers the Q of the resonances, is small. Given a narrow boundary layer, low-frequency particle collisions in the plasma, and negligible damping caused by space dispersion, the presence of effects due to resonance excitation of multipole moments is considered certain.

[BB]

Card 1/1

GIL'DENBURG, V.B.

Plasma resonances in inhomogeneous objects. Zhur. tekh. fiz. 34 no. 2:372-374 F '64. (MIRA 17:6)

1. Gosudarstvennyy universitet imeni Lobachevskogo, Gor'kiy.

ACCESSION NR: AP4009122 S/0056/63/045/006/1978/1987

AUTHOR: Gil'denburg, V. B.

TITLE: Resonance properties of inhomogeneous plasma objects

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963, 1978-1987

TOPIC TAGS: plasma, plasma structure, diffuse boundary plasma structure, plasma transition layer, oscillation induced by field, inhomogeneous structure, resonance properties, plasma resonance quenching, plasma line broadening

ABSTRACT: Oscillations excited by electric fields in plasma structures with diffuse boundaries are investigated. Unlike the earlier investigations, the thickness of the transition layer of the plasma is assumed to be much greater than the Debye radius. The resonant oscillations are investigated for a plane layer with a smoothly varying density as well as for a cylinder and a sphere with non-ldealized boundaries and with piecewise linear distribution of the

Card 1/2

ACCESSION NR: AP4009122

electron density. It is shown that it is essential to take account of the losses in inhomogeneous structures, because they can cause the resonance lines to broaden beyond the Maxwellian values in regions where the dielectric constant is close to unity; in cylindrical and spherical geometry the characteristic plasma resonances can become in general completely quenched by the losses. "The author is indebted to M. A. Miller and I. G. Kondrat'yev for discussion of these results and for a number of valuable comments." Orig. art. has: 31 formulas.

ASSOCIATION: Nauchno issledovatel'skiy radiofizicheskiy institut pri Gor'kovskom universitete (Scientific Research Radiophysics Institute of the Gor'kiy University)

SUBMITTED: 31May63 DATE ACQ: 02Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 009 OTHER: 012

Card 2/2

ACCESSION NR: AP4042581 S/0056/64/046/006/2156/2164

AUTHOR: Gil'denburg, V. B.

TITLE: Nonlinear effects in an inhomogeneous plasma

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 2156-2164

TOPIC TAGS: plasma interaction, plasma density, plasma electron oscillation, plasma sheath, plasma wave reflection, electron density

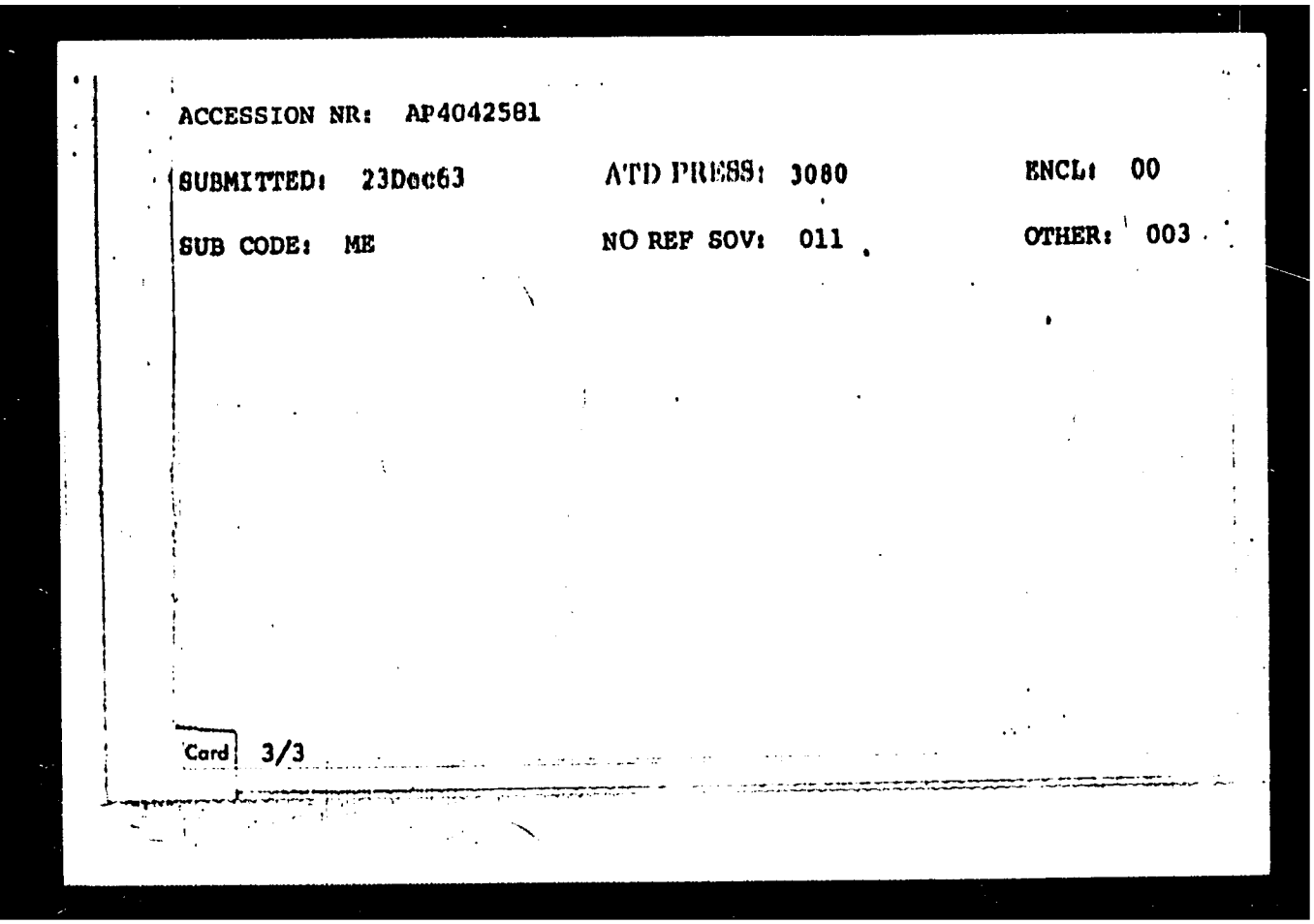
ABSTRACT: The redistribution of electron density occurring in the interaction between a high-frequency field and a stratified inhomogeneous plasma, and the resultant change in the resonance absorption, are investigated for the simple case of a plane stratified plasma structure at low field amplitudes. The analysis presented makes use of the results of A. V. Gurevich and L. P. Pitayevskiy (ZhETF v. 45, 1243, 1963), except that these authors assumed the plasma density to be uniform in the unperturbed state and did not investi-

Card 1/3

ACCESSION NR: AP4042581

gate the spatial distribution of the plasma. The present work is essentially a generalization of their results to the problem of determining the change in the electron density gradient in the vicinity of the plasma resonance point. The nonlinear effects manifest themselves in a discontinuous transition through resonance occurring in an inhomogeneous plasma interacting with a high-frequency field that grows in time. In a decreasing field the discontinuity is shifted towards negative values of the dielectric constant and the plasma "surrounds itself" by a screening layer with zero dielectric constant. It is estimated that the nonlinear effects can become important both under laboratory conditions and in the reflection of radio waves from ionospheric strata. Orig. art. has: 2 figures and 24 formulas.

ASSOCIATION: Radiofizicheskiy institut Gor'kovskogo gosudarstvennogo universiteta (Radio Physics Institute of the Gorky State University)



ACCESSION NR: AP4042581

SUBMITTED: 23Dec63 ATD PRESS: 3080 ENCL: 00

SUB CODE: ME NO REF SOV: 011 OTHER: 003

Card 3/3

AZOS, S.; AREF'YEV, A.; ARTAMONOV, I.; BABINA, L.; PEREGOVSKIY, V.; BLOZHKO,V.; BRAVERMAN, A.; BYKHOVSKIY, Ye.; VINOGRADOVA, M.; GALANKINA, Ye.; GIL'DENGERSH, F.; GLOBA, P.; GREYVER, M.; GORDON, G.; GUL'DIN, I.; GULYAYEVA, Ye.; GUSHCHINA, I.; DAVYDOVSKAYA, Ye.; DAMSKAYA, G.; DERKACHEV, D.; YEVDOKIMOVA, A.; YEGUNOV, P.; ZABELYSHINSKIY, I.; ZAYDENBERG, B.; AZMOSHNIKOV, K.; IZKINA, S.; KARCHEVSKIY, V.; KLUSHIN, D.; KUVINOV, Ye.; KUZNETSOVA, G.; KURSHAKOV, I.; LAKERNIK, M.; LEYZEROVICH, P.; LISOVSKIY, D.; LOSKUTOV, F.; MALEVSKIY, Yu.; MASLYANITSKIY, I.; MAYANTS, A.; MILLER, L.; MITROFANOV, S.; MIKHAYLOV, A.; MYAKINENKOV, I.; NIKITINA, I.; NOVIN, R.; OGNEV, D.; OL'KHOV, N.; OSIPOVA, T.; OSTRONOV, M.; PAKHOMOVA, G.; PETKER, S.; PLAKSIN, I.; PLETENEVA, N.; POPOV, V.; PRESS, Yu.; PROKOF'YEVA, Ye.; PUSHKOV, S.; PEZKOVA, F.; RUMYANTSEV,M.; SAKHAROV, I.; SOBOL', S.; SPIVAKOV, I.; SIRKIN, L.; SPIRIDONOVA,V.; TIMKO, Ye.; TITOV, S.; TROITSKIY, A.; KOLOKOLNIKOV, K.; TROFIMOVA, A.; FEDOROV, V.; CHIZHIKOV, D.; SHEVIN, P.; YUKHIMOV, D.

Roman Lazarevich Vellan; [illegible]. Trest. Mos. 22 no.5:78-79 My '58. (MIRA 11:6)

(Vellan, Roman Lazarevich, 1903-1958)

PA 27/49T38

GIL'DENGERSHEL', KH. I.

USSR/Chemistry - Platinum Compounds Sep/Oct 48
Chemistry - Ammonia

"Acid Properties of Ammoniates and Aminates of Tetravalent Platinum," A. A. Grinberg, Kh. I. Gil'dengershel', Leningrad Tech Inst imeni Lensovet, 14 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 5

Introduces new data which details acid characteristics of ammonia and ethylenediamine molecules in complex compositions of tetravalent platinum. Submitted 15 Oct 47.

27/49T38

CA

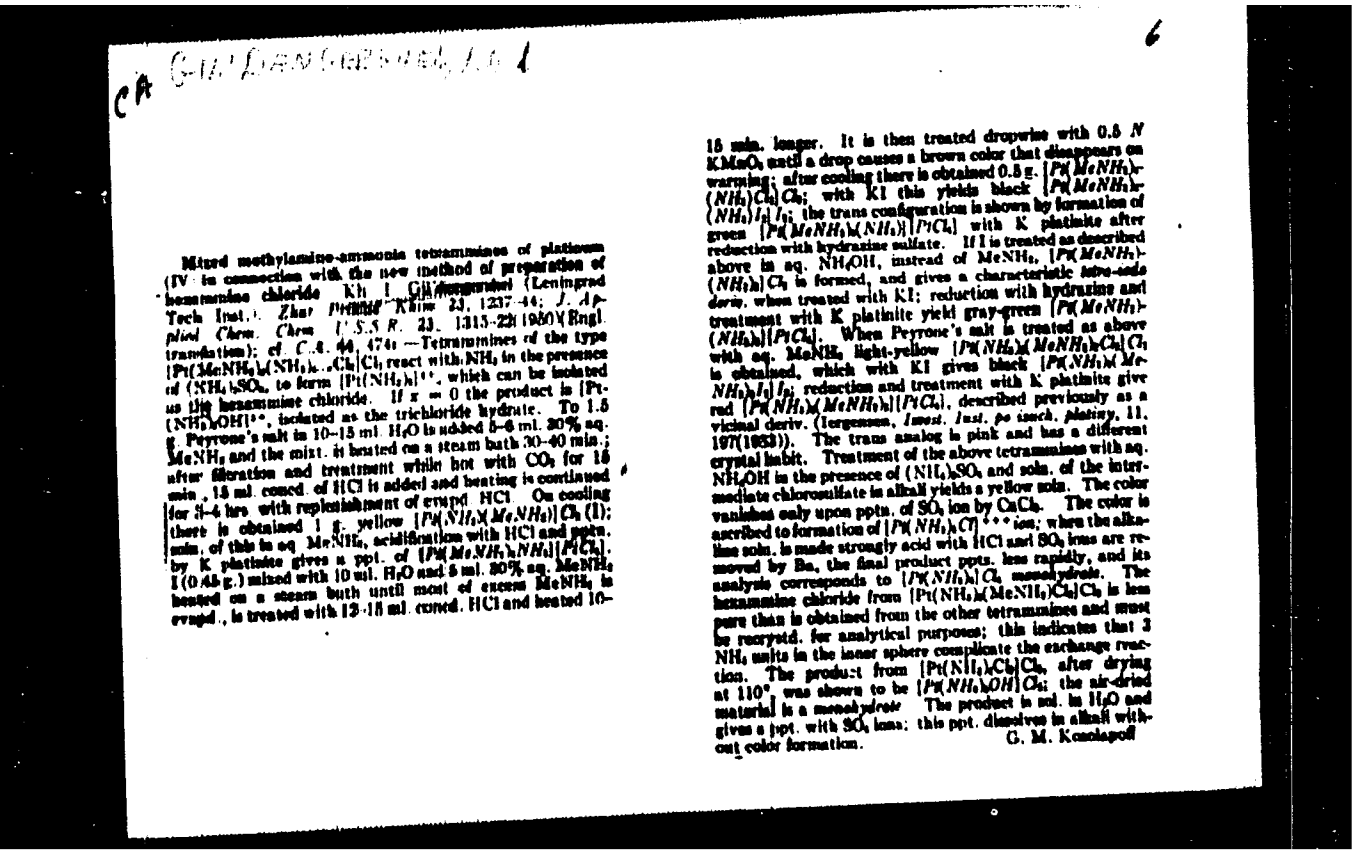
6

New method of preparation of hexammine complexes of quadrivalent platinum. A. A. Grinberg and [illegible] (deceased). *Zhur. Prikład. Khim.* (J. Applied Chem.) 22, 1037-8 (1949). Complete exchange of all 6 coordinated groups in $[Pt_xCl_6]Cl_4$ (I) (where $x = (EtNH_3)$ for NH_3 groups was obtained by heat soln. of an aq. soln. of I with solid $NH_4)_2SO_4$, the light-yellow ppt., treated with NH$_4$OH and heated 1½ hrs. 30 min., turns into a fine white ppt. of compn. very near to $[Pt(NH_3)_4](SO_4)_2$ (II) but with an admixt. of some Cl. II is dissolved by careful dropwise addn. of 30% NaOH, and the soln. is ppted. with the theoretical amt. of $BaCl_2$ in a small vol. of H_2O. From the filtrate, excess concd. HCl ppts. white crystals of $[Pt(NH_3)_4]Cl_2.H_2O$ III. The sequence of reactions is: I + $2(NH_4)_2SO_4$ + $2NH_3$ → II + $4EtNH_3Cl$; 2 II + $2NaOH$ → $[Pt(NH_3)_4(NH_2)_2](SO_4)_2$ + Na_2SO_4 + $2H_2O$; $[Pt(NH_3)_4(NH_2)_2](SO_4)_2$ + Na_2SO_4 + $4BaCl_2$ → $4BaSO_4$ + $2[Pt(NH_3)_4(NH_2)_2]Cl_2$ + $2NaCl$; $[Pt(NH_3)_4(NH_2)_2]Cl_2$ + HCl → III. The initial I was obtained by the action of Cl_2 on a soln. of $(Pt_2Cl_6)Cl_4$ acidified with HCl, or by the action of free EtNH$_2$ on an aq. soln. of H_2PtCl_6, giving $(Pt_2Cl_6)Cl_4$, and then, with Cl_2 in the presence of HCl, I. An alternative synthesis consists in dissolving K_2PtCl_6 in an aq. EtNH$_2$ soln., this results in the formation of $[Pt_2Cl_6]Cl_4$, which can be identified by the pink $[Pt_2][PtCl_6]$. From this soln., acidified with concd. H_2SO_4, a stream of Cl_2 ppts. yellow $[Pt_2Cl_6](HSO_4)_4$, which can be converted into II by the action of $(NH_4)_2SO_4$ + NH_3, and then into III as above. This method gives somewhat better yields with respect to the initial K_2PtCl_6, about 18% of the theory.

N. Thon

Preparation of quadrivalent platinum hexammines. Kh. I. Gel'dengershel (Leningrad Technol. Inst.). *Zhur. Prikl. Khim.* (J. Applied Chem.) 23, 487-92(1950).--A mixt. of 1.5 g. K_2PtCl_6 in 15 ml. H_2O and 10 ml. of a 30% soln. of $MeNH_2$ (m) was heated 30-40 min. until a yellow transparent soln. was formed. After evapn. to 10-15 ml. and acidification with 15 ml. warm concd. HCl, a stream of Cl_2 was passed for 40-45 min. This gave 0.5-0.6 g. of a yellow ppt., analyzing approx. $[Pt(NH_2Me)_3Cl]Cl_3$ (I), and being the analog of the known $[Pt(NH_3)_3Cl]Cl_3$. The crude I was purified by redissolving in 15 ml. H_2O and 5-7 ml. of a 33% soln. of $MeNH_2$, heating, adding 15 ml. warm HCl, and adding dropwise a 0.3-0.5 *N* soln. of $KMnO_4$ until the oxidation was complete. After this addnl. oxidizing treatment, I was obtained pure. On boiling 0.75 g. I with a soln. of 3 g. $(NH_4)_2SO_4$ in 10 ml. H_2O and 10 ml. concd. NH_4OH for 15-20 min., a white finely cryst. ppt. is formed gradually, with a yield of about 0.4 g. on repeated boiling with freshly added portions of NH_4OH; the reaction is $I + 2(NH_4)_2SO_4 + 2NH_4 \rightarrow [Pt(NH_2Me)_3](SO_4)_2$ (II) $+ 4CH_3NH_2.HCl$. Further reactions are $2\,II + 2NaOH \rightarrow [Pt(NH_2Me)_2NH_2]_2(SO_4)_3$ (III) $+ Na_2SO_4 + 2H_2O$, and $III + Na_2SO_4 + 4BaCl_2 \rightarrow 4BaSO_4 + 2[Pt(NH_2Me)_2NH_2]Cl_3$ (IV) $+ 2NaCl$, and finally $IV + HCl \rightarrow [Pt(NH_2Me)_2NH_2]Cl_4$ (V); 0.32 g. of V were obtained from 0.43 g. II.

N. Thon



CA

6

Mixed methylamine-ammonia tetrammines of platinum (IV) in connection with the new method of preparation of hexammine chloride. Kh. I. Gil'dengershel (Leningrad Tech. Inst.). *Zhur. Prikladnoi Khim.* 23, 1237-44; *J. Applied Chem. Chem. U.S.S.R.* 23, 1315-22 (1950) (Engl. translation); cf. *C.A.* 44, 474i.—Tetrammines of the type $[Pt(MeNH_2)_x(NH_3)_{4-x}Cl_2]Cl_2$ react with NH_3 in the presence of $(NH_4)_2SO_4$ to form $[Pt(NH_3)_6]^{++++}$, which can be isolated as the hexammine chloride. If $x = 0$ the product is $[Pt(NH_3)_5OH]^{+++}$, isolated as the trichloride hydrate. To 1.5 g. Peyrone's salt in 10–15 ml. H_2O is added 5–6 ml. 30% aq. $MeNH_2$ and the mixt. is heated on a steam bath 30–40 min.; after filtration and treatment while hot with CO_2 for 15 min., 15 ml. concd. of HCl is added and heating is continued for 3–4 hrs. with replenishment of evapd. HCl. On cooling there is obtained 1 g. yellow $[Pt(NH_3)_2(MeNH_2)]Cl_2$ (I); 1 ml. of this in aq. $MeNH_2$, acidification with HCl and pptn. by K platinite gives a ppt. of $[Pt(MeNH_2)_2NH_3][PtCl_4]$. I (0.45 g.) mixed with 10 ml. H_2O and 5 ml. 30% aq. $MeNH_2$ heated on a steam bath until most of excess $MeNH_2$ is evapd., is treated with 12–15 ml. concd. HCl and heated 10–15 min. longer. It is then treated dropwise with 0.5 *N* $KMnO_4$ until a drop causes a brown color that disappears on warming; after cooling there is obtained 0.5 g. $[Pt(MeNH_2)_2(NH_3)_2]Cl_2$; with KI this yields black $[Pt(MeNH_2)_2(NH_3)_2]I_2$; the trans configuration is shown by formation of green $[Pt(MeNH_2)_2(NH_3)_2][PtCl_4]$ with K platinite after reduction with hydrazine sulfate. If I is treated as described above in aq. NH_4OH, instead of $MeNH_2$, $[Pt(MeNH_2)(NH_3)_3]Cl_2$ is formed, and gives a characteristic *intro-ado deriv.* when treated with KI; reduction with hydrazine and treatment with K platinite yield gray-green $[Pt(MeNH_2)(NH_3)_3][PtCl_4]$. When Peyrone's salt is treated as above with aq. $MeNH_2$ light-yellow $[Pt(NH_3)_2(MeNH_2)_2Cl_2]Cl_2$ is obtained, which with KI gives black $[Pt(NH_3)_2(MeNH_2)_2]I_2$; reduction and treatment with K platinite give red $[Pt(NH_3)_2(MeNH_2)_2][PtCl_4]$, described previously as a vicinal deriv. (Iergensen, *Invest. Inst. po stoch. platiny*, 11, 197(1953)). The trans analog is pink and has a different crystal habit. Treatment of the above tetrammines with aq. NH_4OH in the presence of $(NH_4)_2SO_4$ and soln. of the intermediate chlorosulfate in alkali yields a yellow soln. The color vanishes only upon pptn. of SO_4 ion by $CaCl_2$. The color is ascribed to formation of $[Pt(NH_3)_5Cl]^{+++}$ ion; when the alkaline soln. is made strongly acid with HCl and SO_4 ions are removed by Ba, the final product ppts. less rapidly, and its analysis corresponds to $[Pt(NH_3)_5]Cl_4$ monohydrate. The hexammine chloride from $[Pt(NH_3)_2(MeNH_2)_2Cl_2]Cl_2$ is less pure than is obtained from the other tetrammines and must be recrystd. for analytical purposes; this indicates that 3 NH_2 units in the inner sphere complicate the exchange reaction. The product from $[Pt(NH_3)_2Cl_2]Cl_2$, after drying at 110°, was shown to be $[Pt(NH_3)_5OH]Cl_3$; the air-dried material is a monohydrate. The product is sol. in H_2O and gives a ppt. with SO_4 ions; this ppt. dissolves in alkali without color formation.

G. M. Kosolapoff

GIL'DENGERSHEL, Kh.I.; SHAGISULTANOVA, G.A.

New method of preparation of potassium chloroplatinite. Zhur. Priklad. Khim. 26, 222-3 '53. (MLRA 6:3)
(CA 47 no.21:11061 '53)

1. Lensovet Technol. Inst., Leningrad.

GIL'DENGERSHEL', Kh.I.

Composition of L.A. Chugaev's salt. Izv.Sekt.plat.i blag.met. no.31: 47-52 '55. (MLRA 9:5)

1. Leningradskiy khimiko-tekhnologicheskiy institut imeni Lensoveta.
(Platinum compounds)

GIL'DENGERSHEL', KH.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 22 - 25/49

Authors : Grinberg, A. A., Memb. Corresp., Acad. of Sc., USSR, and Gil'dengershel', Kh. I.

Title : The mechanism of the new synthesis of hexammines of tetravalent Pt

Periodical : Dok. AN SSSR 101/3, 491-493, Mar 21, 1955

Abstract : In explaining the mechanism of the new method of synthesizing hexammines of tetravalent Pt the authors point out that the intra-complex bound ethylamine molecules in the $Pt(C_2H_5NH_2)_4Cl_2$ Cl_2 compound become sponified into ammonia which remains in bond with the Pt and ethyl alcohol which remains in the solution. Experiments showed that only the intraspherally bound ethylamine is subject to sponification and not the ethylamine which was separated from the complex as result of substitution reaction. The process of conversion of ethylamine into ethyl alcohol is described. One USSR reference (1949).

Institution : The Lensoviet Technological Institute, Leningrad

Submitted : October 15, 1954

GIL'DENGERSHEL', Kh.I.

New methods for the synthesis of tetraminoplatochlorides. (MLRA 9:10)
Zhur.neorg.khim. 1 no.3:400-405 Mr '56.

(Platinum compounds)

GIL'DENGERSHEL', Kh. I.

Part 2: Platinum compounds with ethanolamine. Zhur. neorg. khim. 2 no.5:1077-1085 My '57. (MIRA 10:8)
(Platinum organic compounds) (Ethanol)

AUTHORS: Grinberg, A. A., Gil'dengershel', [illegible], V. V.

TITLE: II.On the Effect of Ani[illegible]nter Sphere Upon t[illegible] Nature of Substitution Within the Inner Sphere of Complex Compounds
v[illegible]shney sfery na kharakter [illegible] sfere kompleksnykh soyedineniy)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, [illegible], Vol. [illegible], Iss. [illegible], pp. 1162 - 1165 (USSR)

ABSTRACT: The interaction between the iso eric di[illegible] o. t[illegible] valent platinum and ammonia in the presence of [illegible] phosphate ions was investigated. The results showed [illegible] the presence of SO_4^{2-} and PO_4^{3-} different pr[illegible] form of [illegible]. Upon the action of ammonia upon $\left[(Pt\,NH_3)_5Cl\right]^{++}$, [illegible] amine form in the presence of SO_4^{2-}. In the presence of PO_4^{3-} chloropentamine for s. By means of t[illegible],

Card 1/2

II. On the Effect of Anions Within the Outer Sphere Upon the Nature of Substitution Within the Inner Sphere of Complex Compounds

It is possible that the anions SO_4^{2-} and CrO_4^{2-} [illegible] reaction into the **inner sphere.** [illegible] same effect upon the above-mentioned substitution in the $\left[(Pt\,NH_3)_5Cl\right]^{3+}$ system. From the obtained results, it can be seen that in the presence of SO_4-ions and CrO_4-ions the **substitution** process within the **inner sphere** [illegible] very profound. The last chlorine atom is displaced by the [illegible]. The results showed that the anions within the **outer sphere** of a complex can cause a certain loosening in the anions of the **inner sphere** of a complex. There are [illegible] references, [illegible] are Soviet.

SUBMITTED: May 15, 1957
AVAILABLE: Library of Congress
Card 2/2

1. **Complex** compounds—Substitution reactions—[illegible]

78-3-6-8/30

AUTHOR: Gil'dengershel', Kh. I.

TITLE: III. The Compounds of Platinum With ethanol Amine (III. Soyedineniya platiny s etanolaminom)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 6, pp. 1326-1335 (USSR)

ABSTRACT: An investigation was carried out of the electric conductivity and of the p_H-value of the solution of the diamines of platinum-(II) and of the potentiometric titration of platinum-(IV)-tetrammines with solution of alkali. The electric conductivity of the diamines of platinum-(II) inoicates that these compounds are weak electrolytes. The dissociation constant of trans $[Pt.Etm_2(OH_2)_2]^{2+}$ and of trans $[Pt.Etm.NH_3(OH_2)_2]^{2+}$ was determined.

The platinum compounds with ethanol amine have more acid properties than the simple amines. The tetrammine compounds of platinum-(IV) containing ethanol amine in the inner sphere of the complex have more acid properties than the corresponding compounds with ammonia orethyl diamine. The ethanol amine molecules in the inner sphere of the platinum

Card 1/2

III. The Compounds of Platinum With Ethanol Amine 78-3-6-9/30

compounds show great cis action on the platinum compounds since ethanol amine in the inner sphere increases the degree of dissociation. Probably the alcohol group forms oxyacids in the ethanol amine molecules.
The dissociation constants of the aquo-compounds of the following platinum compounds were determined:

trans- $[Pt(NH_3)_2(OH_2)_2]^{2+}$, $K_1 = 4{,}79.10^{-5}$, $K_2 = 4{,}17.10^{-8}$,

cis- $[Pt(NH_3)_2(H_2O)_2]^{+}$, $K_1 = 2{,}76.10^{-6}$, $K_2 = 4{,}79.10^{-8}$,

There are 4 figures and 8 references, 7 of which are Soviet.

SUBMITTED: April 29, 1957

AVAILABLE: Library of Congress

1. Platinum compounds--Conductivity 2. Ethanol amines--Applications
3. Chemical compounds--Properties 4. Chemical compounds--Conductivity

Card 2/2

SOV/78-4-5-13/46

5(4)
AUTHORS: Grinberg, A. A., Vrublevskaya, L. V., Gil'dengershel', Kh. I., Stetsenko, A. I.

TITLE: New Data Concerning the Acid-basic Properties of Complex Compounds (Novyye dannyye po kislotno-osnovnym svoystvam kompleksnykh soyedineniy)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 5, pp 1018-1027 (USSR)

ABSTRACT: The present paper was submitted at the VII All-Union Conference on the Chemistry of Complex Compounds at Leningrad on October 11, 1956. The behavior of acid-basic complex compounds and the solvatation equilibria in aqueous solutions of ammoniacates and ammines of metal was investigated. The acid properties of the propylene-diammine-derivatives of quadrivalent platinum as well as the acid properties of cis-$Pt(NH_3)_4Cl_2$ were investigated. The cis-isomer of the propylene-diammine-derivative Pt^{4+} was for the first time synthetized. The acid properties of this compound were determined by

Card 1/4

New Data Concerning the Acid-basic Properties of Complex Compounds

potentiometric titration by means of the glass electrode. Figure 1 shows the titration curve of $[PtPn_3]Cl_4$ with NaOH. The process of the acid dissociation of $[PtPn_3]^{4+}$ is described by the following equations:

$$[PtPn_3]^{4+} \rightleftharpoons [PtPn_2(Pn - H^+)]^{3+} + H^+ \quad (1)$$

$$[PtPn_2(Pn - H^+)]^{3+} \rightleftharpoons [PtPn(Pn - H^+)_2]^{2+} + H^+ \quad (2)$$

$$[PtPn(Pn - H^+)_2]^{2+} \rightleftharpoons [Pt(Pn - H^+)_3]^{+} + H^+ . \quad (3)$$

It was shown that the cis-isomer is a dibasic acid with the following dissociation constants: $K_1 = 6.1.10^{-9}$ and $K_2 = 4.4.10^{-11}$. The trans-isomer is a weak monobasic acid, $K_1 = 1.8.10^{-11}$. The potentiometric titration of the isomeric compound $[Pten_2Cl_2]Cl_2$ was investigated. The dissociation

Card 2/4

New Data Concerning the Acid-basic Properties of Complex Compounds

constants of this compound are the following: $K_1 = 4.3.10^{-10}$ and $K_2 = 4.9.10^{-11}$. The acid properties of the cis-isomers of the propylene-diammine-cycle are more marked than those of the corresponding ammine derivatives. $[PtPn_3]Cl_4$ is a tri-basic acid. The constants of the stepwise dissociation are the following: $3.9.10^{-6}$; $2.5.10^{-10}$ and $2.1.10^{-11}$. The acid properties of the following preparations were investigated: $[Co(NH_3)_6]Cl_3$, $[Coen_3]J_3$, $[Iren_3]J_3$, $[Rhen_3]J_3$. The titration curves of this compound are shown by figures 4 and 5. The causes of the cis-effect and of the acidity of the propylene-diammine-derivatives of quadrivalent platinum are discussed. On the basis of experimental data the stepwise dissociation of $Pt(Thio)_4(OH)_2$ (Thio = $SC(NH_2)_2$) is calculated. The constants K_1 and K_2 are approximately $10^{-5} - 10^{-6}$ and $10^{-9} - 10^{-10}$ respectively. There are 5 figures and 26 references, 11 of which are Soviet.

Card 3/4

SOV/78-4-2-12/46

New Data Concerning the Acid--basic Properties of Complex Compounds

SUBMITTED: February 21, 1958

Card 4/4

GIL'DENGERSHEL', Kh.I.; GEL'FMAN, M.I.

Method of synthesizing potassium hexabromoplatinate. Zhur. prikl. khim. 33 no.12:2773-2774 D '60. (MIRA 14:1)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
(Potassium bromoplatinate)

[illegible]G, A.A.; GIL'DENGERSHEL', Kh.I.; SIBIRSKAYA, V.V.

Mixed methylamine-ammonia platinum pentam in[illegible] and its acidic properties. Zhur. neorg. [illegible]. 6 no.1:90-94 '61. (MIRA 14:2)
(Platinum compounds)

GIL'DENGERSHEL', Kh. I.

Compounds of platinum with ethanolamine. Zhur.neorg. khim. 6 no.3:621-624 Mr '61. (MIRA 14:3)
(Platinum compounds) (Ethanol)

GIL'DENGERSHEL', Kh.I.

Special features of the formation of complex compounds with cycle-forming substituents. Dokl.AN SSSR 138 no.2:369-372 My '61. (MIRA 14:5)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta. Predstavleno akademikom A.A.Grinbergom.
(Complex compounds) (Cyclic compounds) (Isomers)

GIL'DENGERSHEL', Kh.I.; PANTELEYEVA, Ye.P.

New conditions of synthesis involving $PtCl_4^{2-}$ ions. Dokl. AN SSSR 140 no.2:371-373 S '61. (MIRA 14:9)

1. Leningradskiy tekhnologicheskiy institut im. Lensoveta. Predstavleno akademikom A.A.Grinbergom.
(Platinum organic compounds)

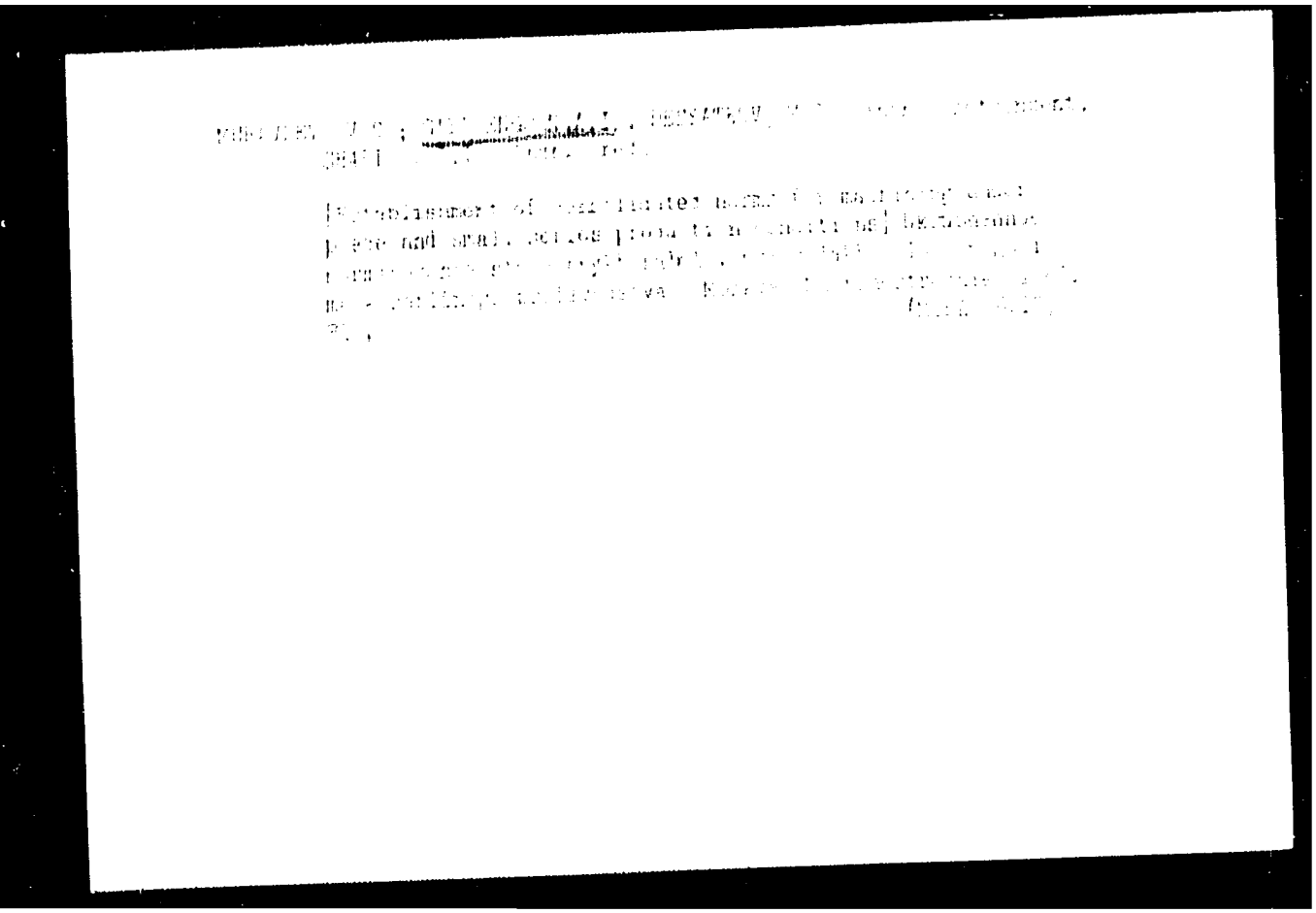
GIL'DENGEL'HEL', Kh.I.

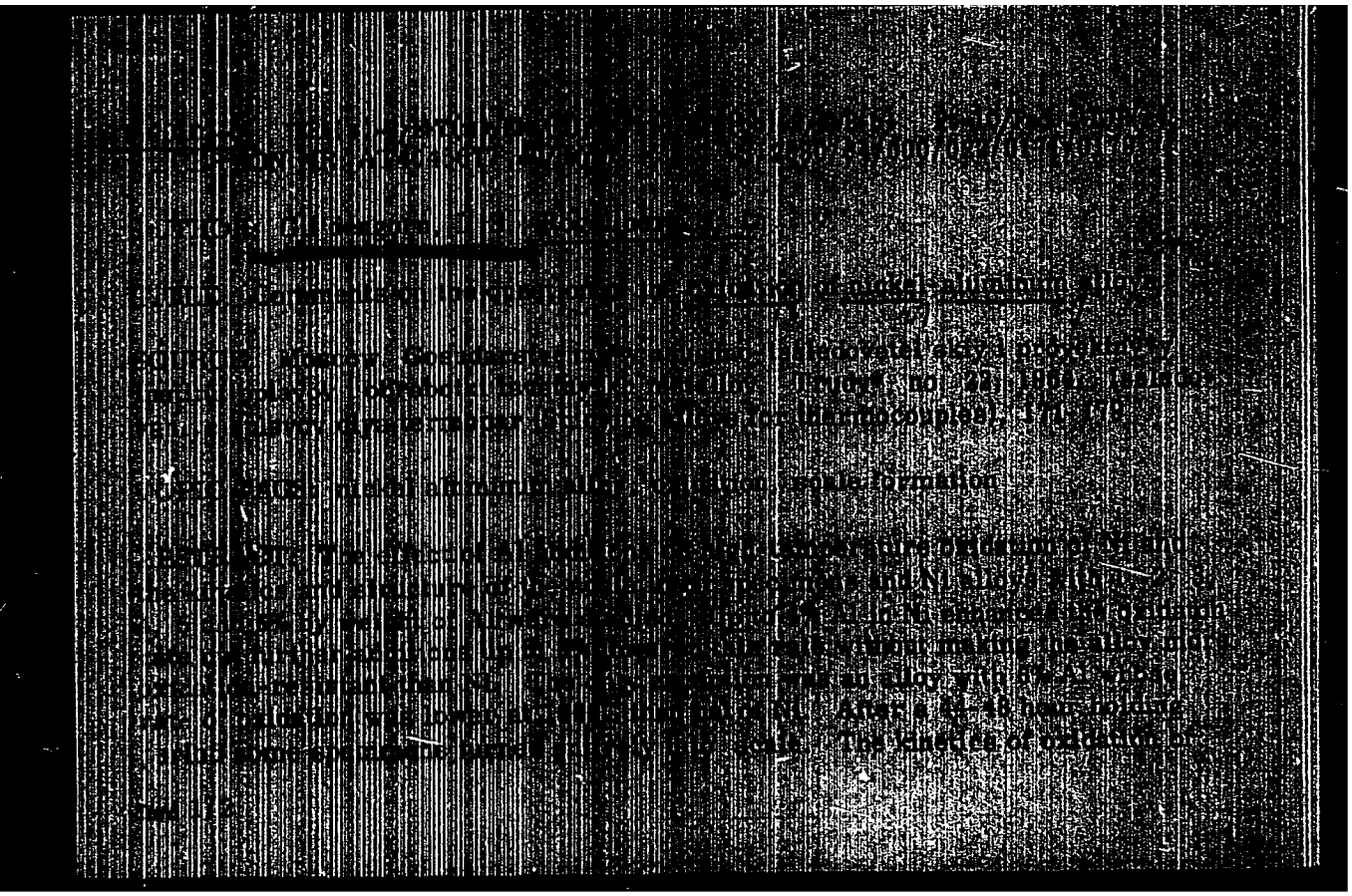
Compounds of platinum with diethanolamine. Zhur.neorg.khim. 7 no.2:233-239 F '62. (MIRA 15:3)
(Platinum compounds) (Ethanol)

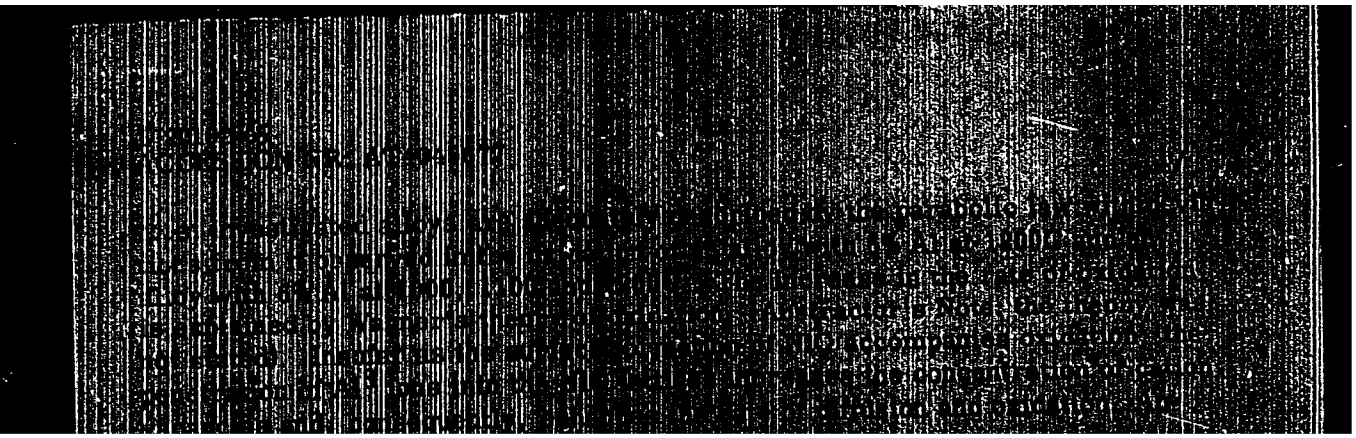
GRINBERG, A.A.; GIL'DENGERSHEL', Kh.I.; PANTELEYEVA, Ye.P.

Acidic-basic properties of geometrically isomeric [illegible]compounds.
Zhur. neorg. khim. 8 no.10:2226-2231 O '63. (MIRA 16:10)

(Complex compounds) (Isomerism)







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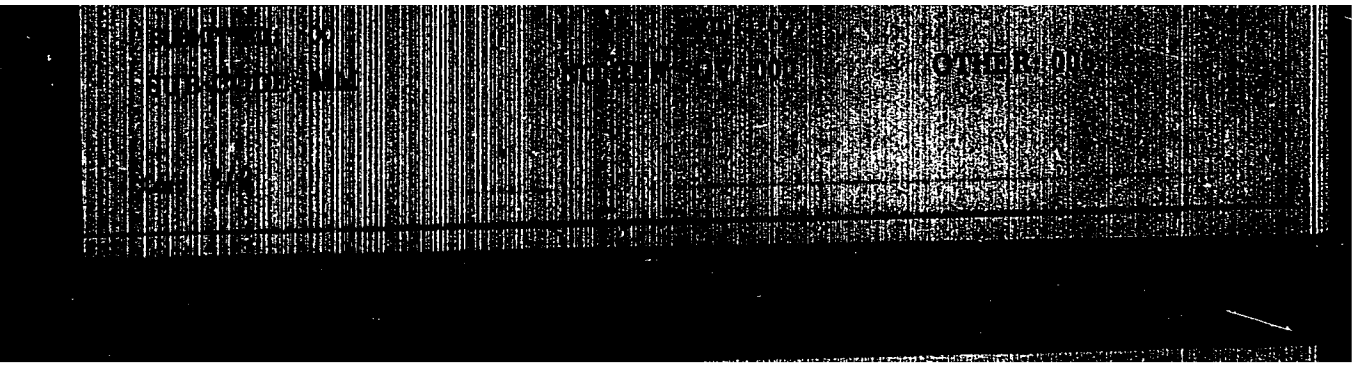

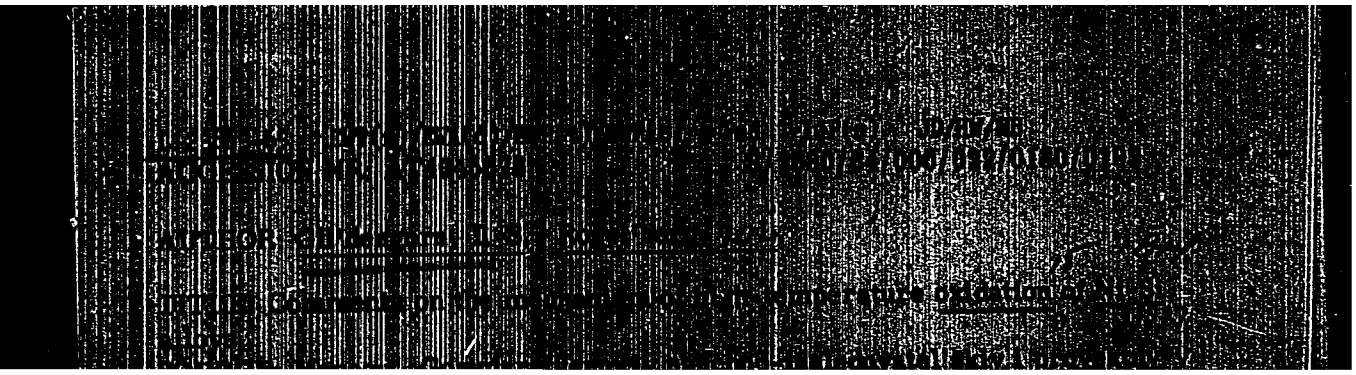

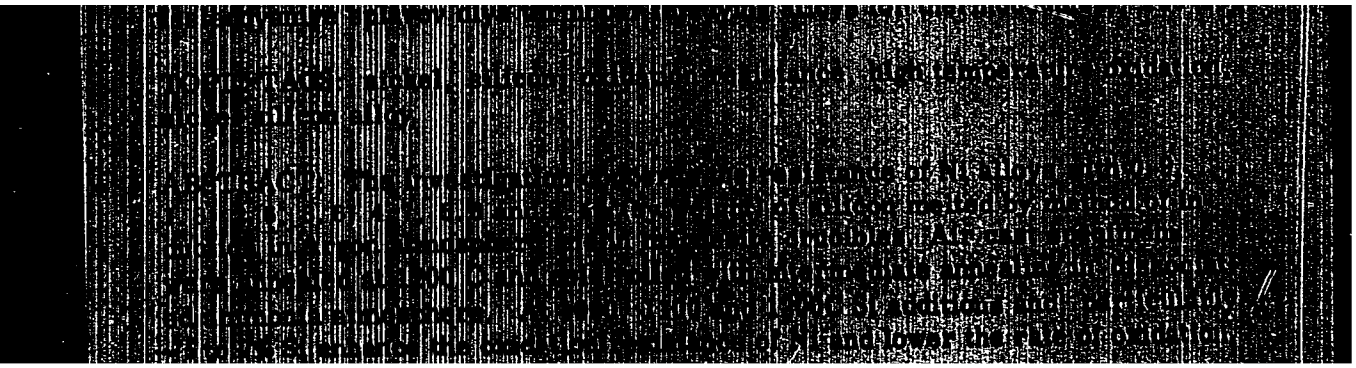

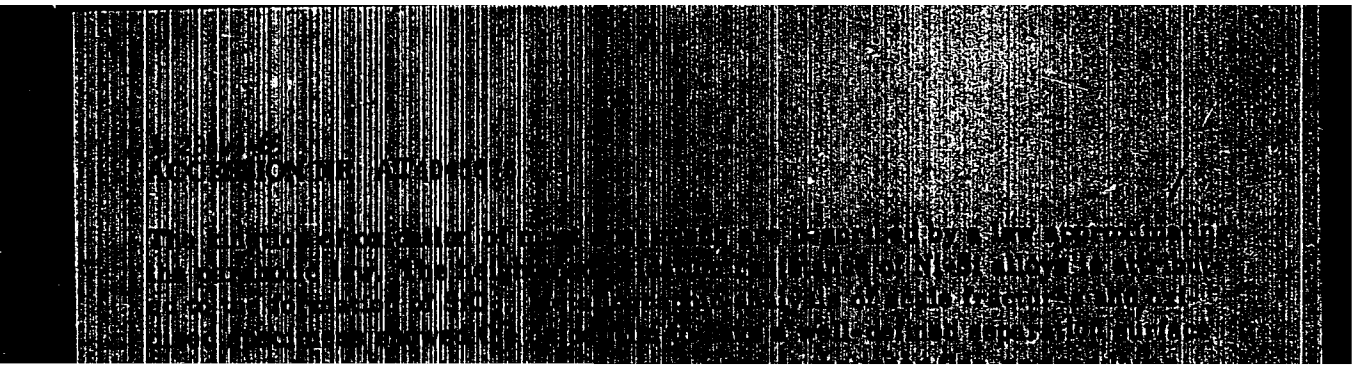

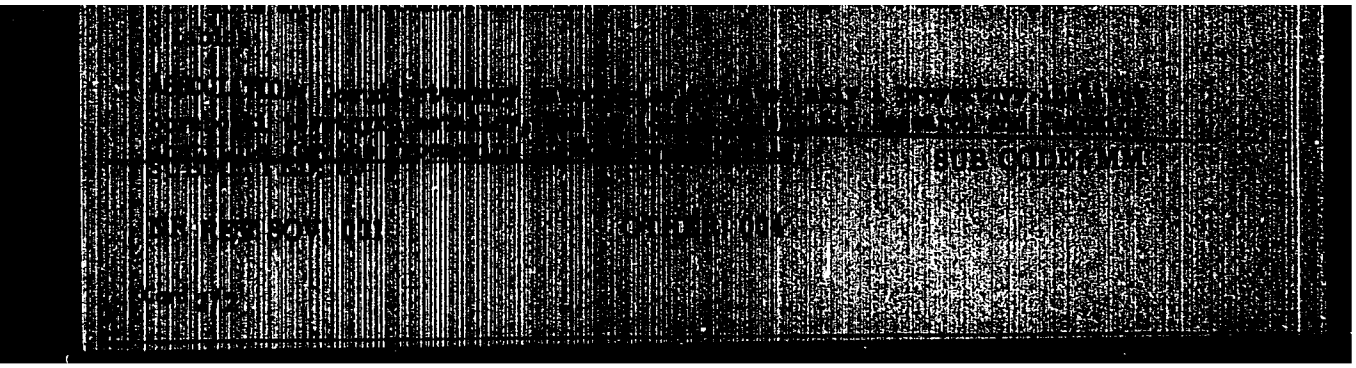

ZAKHAROV, Ye.D.; GUR'YEV, I.I.; SOLOV'YEVA, V.V.; DRONOVA, N.F.; GIL'DENGORN, I.S.; KHODAKOV, P.Ye.; BONDAREV, B.I.

Nonuniformity in continuously cast ingots and its effect on the quality of semifinished products. Alium. splavy no.3:371-382 '64. (MIRA 17:6)

S/0126/64/017/004/0527/0535

ACCESSION NR: AP4034051

AUTHORS: Gil'dengorn, I. S.; Rogel'berg, I. L.

TITLE: The study of high-temperature oxidation of nickel-silicon alloys

SOURCE: Fizika metallov i metallovedeniye, v. 17, no. 4, 1964, 527-535

TOPIC TAGS: nickel silicon alloy, high temperature oxidation, electronography, oxide formation, thermocouple, adhesion/ N1 brand nickel, KrO brand silicon, URS 50I radiographic apparatus, ADV 200 balance

ABSTRACT: In this work the kinetics of oxidation of alloys of Ni with 0.9-6.4% by wt of Si were studied at temperatures of 1000, 1100, and 1200C. On the basis of electronographic and radiographic investigations of the phase properties of the oxide layers it is shown that alloying of Ni with Si increases the cinder resistance of Ni and that this is due to the formation of SiO_2 in the suboxide layer. The alloy was prepared from N1 brand nickel (Ni $\geq$ 99.94%) and KrO silicon (Si $\geq$ 90%) in a high-frequency induction furnace in magnesite crucibles using argon at a pressure 1 atm. The ingot (450 g wt) was rolled to a thickness of 0.4 mm. From these cold rolled bands specimens 25 x 60 mm were cut. These specimens were then polished with a paper No. 2/0, degreased in benzene and in acetone, and

1/2

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ACCESSION NR: AP4034051

stored in a dessicator until tested. The rate of oxidation in the process of isothermal exposure was determined by periodically weighing the specimen, using a balance of the type ADV-200. The temperature during oxidation was maintained to an accuracy of ± 5C. The oxidation proceeded in air at atmospheric pressure for 10 hrs at 1000 and 1100C and for 10 and 50 hrs at 1200C. The phase properties of the oxide layer were studied with the aid of radiographic apparatus of the type URS-501 and by electronographic methods. The results of the experiments showed that the addition of silicon increased the cinder resistance of Ni in the process of oxidation at temperatures of 1000-1200C. The cinder resistance of alloys with 5-7% Si was considerably higher than that of pure Ni. The kinetics of oxidation in the majority of cases obeyed an approximately parabolic law. The basic factor influencing the oxidation appeared to be the formation of a surface of $NiO-SiO_2$ alloy. The adhesion properties of the oxide film on alloys with 2.6 to 6.4% Si were less than the adhesion properties of the film on pure Ni or low-alloyed Ni. With increased time of exposure, the adhesion of the oxide layer had a tendency to increase. Orig. art. has: 6 figures and 4 tables.

ASSOCIATION: Institut giprotsvetmetobrabotka (Institute of Nonferrous Metallurgy)

SUBMITTED: 04Mar63 ENCL: 00

SUB CODE: MM NO REF SOV: 002 OTHER: 009

Card 2/2

L 2537-66 EWT(m)/EPF(c)/EWP(t)/EWP(b) IJP(c) JD/WB

ACCESSION NR: AP5021934 UR/0126/65/020/002/0231/0235
542.943+539.26

45
42
B

AUTHOR: Gil'dengorn, I. S.; Rogel'berg, I. L.

TITLE: Oxidation of nickel-silicon-aluminum alloys at high temperatures

SOURCE: Fizika metallov i metallovedeniye, v. 20, no. 2, 1965, 231-235

TOPIC TAGS: nickel, nickel alloy, silicon containing alloy, aluminum containing alloy, alloy oxidation, high temperature oxidation, oxidation kinetics, alloy oxidation resistance

ABSTRACT: Binary and ternary nickel alloys containing 0—6% Al and/or 0—7% Si, with a total amount of alloying compounds of not more than 7%, were melted in an h-f induction furnace in an argon atmosphere, annealed at 1250C and water quenched, cold rolled (with process annealing) into 0.4 mm-thick strip, and then tested for oxidation resistance in air at 1000 and 1200C for 10 hr. Binary Ni-Al alloys and ternary alloys with a low total content of Al and Si had a low oxidation resistance. Alloys containing more than 5% alloying elements had high oxidation resistance, exceeding in many cases that of the most oxidation-resistant binary Ni-Si alloys. Si increased the oxidation resistance of Ni-Al alloys at both temperatures tested and was much more effective in Ni-Al alloys than in pure Ni. Al in Ni-Si alloys

Card 1/2

L 2537-66

ACCESSION NR: AP5021934

3

increased their oxidation less than Si does in Ni-Al alloys. Alloys containing a total of up to 4% Si and Al were susceptible to internal oxidation, the extent of which increased with decreasing alloying and increasing temperature and exposure. Oxidation of binary alloys proceeded at a parabolic rate, and that of ternary alloys, at an approximately logarithmic rate, which made ternary Ni-Si-Al alloys preferable for prolonged operation at high temperatures. The scale on Ni-Si-Al alloys had a multilayer structure, with an external layer consisting of NiO and an internal layer of various amounts of $NiAl_2O_4$ spinel and α-Al_2O_3 phase. Orig. art. has: 5 figures. [MS]

ASSOCIATION: Institut Giprotsvetmetobrabotka 44,55

SUBMITTED: 24Aug64 ENCL: 00 SUB CODE: MM

NO REF SOV: 003 OTHER: 003 ATD PRESS: 4110

Card 2/2 Mrd

L 28857-66 EWT(m)/EWP(t)/ETI IJP(c) JD/WB

ACC NR: AP6010411 SOURCE CODE: UR/0126/66/021/003/0466/0467

AUTHOR: Leyner, D. I.; Bay, A. S.; Gil'dengorn, I. S.

ORG: Giprotsvetmetobrabotka

TITLE: On the mechanism of the oxidation of iron

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 3, 1966, 466-467

TOPIC TAGS: metal oxidation, iron, iron compound, physical diffusion, ion, physical chemistry theory

ABSTRACT: There is a discrepancy between two theories of this mechanism. Thus, Pfeil (Iron and Steel Inst., 1929, 119, 501) established that the dominant factor in the oxidation of iron is the diffusion of Fe ions through the scale, whereas Davies et al. (J. Metals, 1951, 3, 10, 889) and Himmel et al. (J. Metals, 1953, 5, 6, 827) believe that oxygen diffusion accounts two-thirds for the formation of Fe_3O_4 layers and entirely for the formation of Fe_2O_3 layer and consider the diffusion of cations as the dominant factor in the oxidation of iron. To clear up this discrepancy, the authors performed a simple experiment: specimens of armco iron were oxidized in air at 1000°C until a Fe_2O_3 layer several microns thick had formed. After this, a platinum tag (wire of 100-μ diameter) was placed on the surface of the specimen without removing it from the furnace and the oxidation was continued for several hours.

Card 1/2

UDC: 669.018.85: 620.193

L 28857-66
ACC NR: AP6010411

Subsequent investigation showed that the tag lay deep in the layer of wustite. Additional experiments with annealing the scale separated (together with the tag) from the iron showed that the penetration of the tag into the scale is not associated with creep. These findings contradict the theory of Davies et al. and Himmel et al. and can be explained only by the mechanism suggested by Pfeil as well as by V. I. Arkharov (Okisleniye metallov, Sverdlovsk, Metallurgizdat, 1945). (Arkharov showed that at high temperatures the Fe_2O_3 layer is the first to appear. Below it form the Fe_3O_4 and FeO layers owing to the reduction of the Fe_2O_3 oxide by Fe ions. The scale forms at the Fe_2O_3-O_2 interface.) Orig. art. has: 1 figure.

SUB CODE: 11,07/ SUBM DATE: 09Jun65/ ORIG REF: 001/ OTH REF: 003

Card 2/2 CC

ACCESSION NR: AP4029539 S/0149/64/000/002/0155/0159

AUTHOR: Gil'dengorn, M. B.

TITLE: An experiment for producing tubes from a D16 alloy aluminum clad on both sides

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 2, 1964, 155-159

TOPIC TAGS: D16 alloy, aluminum cladding, aluminum tubing, nonferrous alloy, aluminum base alloy, AD1 aluminum

ABSTRACT: This paper treats the problem of manufacturing high-strength aluminum alloy tubing with aluminum cladding on both sides. Tube shells for extrusion were produced by casting D16 alloy between two concentric AD1 tubes. It was found that in extruding with a lubricant, a sufficiently uniform flow of all three layers of the metal occurs except for the ends of the tubes. The angle of the entrance cone of the die had an appreciable effect on the length of these ends and on the flow of the individual layers during extrusion, although the extrusion was performed with a lubricant at a low container temperature. The most uniform flow was achieved with an angle of entrance cone of 50°. Investigation of the microstructure of the transitional zone between cladding and base alloy revealed

Card 1/2

ACCESSION NR: AP4029539

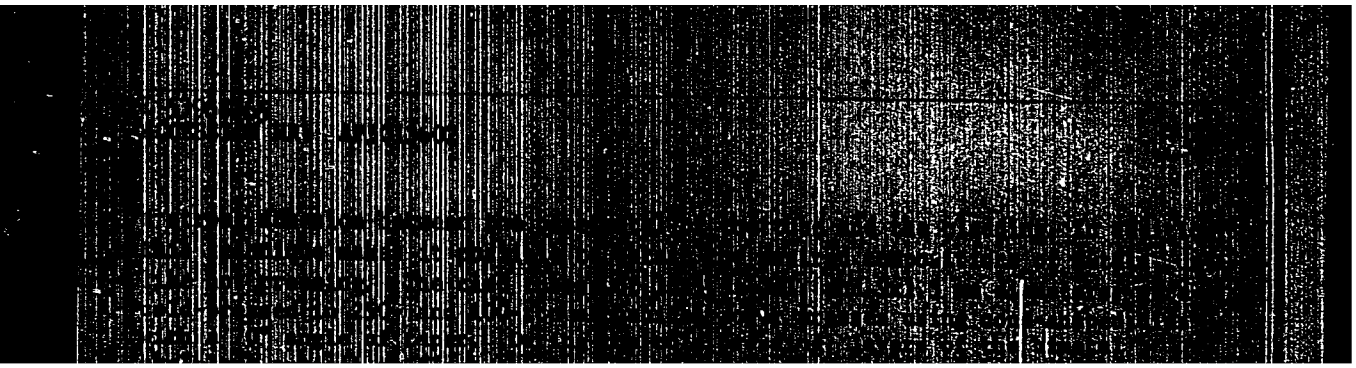
the existence of a band between the base metal D16 and the external and internal cladding of AD-1 aluminum. The method and thoroughness of preparing the shell for extrusion has a great effect on the bond quality. Extruded tubes 32 x 2 mm (outside diameter x wall thickness) were cold rolled into tubes 18 x 1 mm and cold drawn to 12 x 0.75 mm. Tests of the mechanical properties of the finished tubes have shown that they have a tensile strength of 35-39 kg/mm^2, yield strength of 20-23 kg/mm^2 and elongation of 14-20%. Orig. art. has: 1 table, 2 figures, and 1 formula.

ASSOCIATION: Vsesoyuzny*y institut legkikh splavov (All-Union Institute of Light Alloys)

SUBMITTED: 07Oct63 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 000

Card 2/2



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L 5137-65 EWT(k)/EWA(a)/EWT(d)/EWA(m)/EWP(h)/EWP(b)/EWA(d)/EWP(1)/EWP(w)/EWP(v)/
[illegible] Pf-4 [illegible]
ACCESSION NR: AP5010976 UR/0286/65/000/007/0165/0165

AUTHOR: Zabbarov, N. F.; Fayzin, V. I.; Roytbarg, L. Kh.; Shneyerov, I. B.; Yermanok, M. Z.; Gil'dengorn, M. G.

TITLE: An extrusion attachment. Class 49, No. 169985

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 7, 1965, 165

TOPIC TAGS: extrusion, panel extrusion, extrusion attachment, panel extrusion device

ABSTRACT: This Author Certificate introduces an attachment for the extrusion of panels from hollow billets. The device consists of a mandrel (see Fig. 1 of the Enclosure) fitted into a hollow stem and centered in the die which, during extrusion, forms the inner wall of the container. In order to lower the extrusion force and to increase the quality of extruded articles, the stem is designed as a cylinder in which the mandrel slides freely and the die has the shape of an open ring
Orig. art. has: 1 figure. [WW]

ASSOCIATION: none

Card 1/3

L 51376-65

ACCESSION NR: AP5010976

SUBMITTED: 14Jul62	ENCL: 01	SUB CODE: MM
NO REF SOV: 000	OTHER: 000	ATD PRESS: 4006

Card 2/3

GIL'DENGORN, M.B. (Moskva); SHELAMOV, V.A. (Moskva); RAYTBERG, L.Kh. (Moskva)

Characteristics and new trends in the manufacture of semi-finished products of SAP (sintered aluminum powder). Poroshk. met. 5 no.12:16-19 D '65. (MIRA 19:1)

1. Submitted October 29, 1964.

L 21204-66 EWP(e)/EWT(m)/EWP(v)/T/EWP(t)/EWP(k) IJP(c) JD/HW/EW
ACC NR: AP6001470 (A) SOURCE CODE: UR/0226/65/000/012/0016/0019

AUTHOR: Gil'denshtern, M. S. (Moscow); Shelamov, V. A. (Moscow); Raytbarg, L. Kh. (Moscow)

ORG: none

TITLE: Peculiarities and new trends in production of half-finished parts from sintered aluminum powder. Report presented at the seventh All Union Conference on powder metallurgy, held 12 to 14 Oct 1964 in Yerevan

SOURCE: Poroshkovaya metallurgiya, no. 12, 1965, 16-19

TOPIC TAGS: sintered aluminum powder, aluminum alloy, argon, arc welding, aluminum plating

ABSTRACT: The authors elaborate on the basic parameters of the technology of obtaining bimetallic tubes from sintered aluminum powder (SAP) material with a plating made of welded aluminum alloy. Constructive units made of such tubes may be joined by contact welding methods along the plating layer. It is shown that sintering SAP at temperatures of 600 to 620C and exposure for 20 to 50 hours (depending on the size of the sintered briquette) yield material with

Card 1/2

L 21204-66
ACC NR: AP6001470

low gas saturation, which does not hinder welding by argon-arc-methods. Orig. art. has: 3 figures. [Based on author's abstract] [AM]

SUB CODE: 11, 13/ SUBM DATE: 29Oct64/ ORIG REF: 005

Card 2/2 dlh

L 20765-66 EWP(k)/EWT(m)/T/EWA(d)/EWP(t) IJP(c) JH/JD/HW

ACC NR: AP6009628 SOURCE CODE: UR/0182/66/000/003/0015/0018

AUTHOR: Gil'dengorn, M. S.

ORG: none

TITLE: Investigation of the process of cold extrusion of aluminum-clad aluminum-alloy tubes

SOURCE: Kuznechno-shtampovochnoye proizvodstvo, no. 3, 1966, 15-18

TOPIC TAGS: aluminum alloy tube, aluminum clad tube, tube extrusion, cold extrusion

ABSTRACT: AV, D1, and D16 aluminum-alloy tubes 16 x 1 mm (outside diameter x wall thickness) with outside aluminum cladding 0.249—0.596 mm thick were produced by cold extrusion. Hot-extruded alloy tubes with outside diameters of 29.5—35.5 and wall thicknesses of 7.5—10.5 mm were inserted into A00 aluminum tubes with inside diameters of 30.5—36.5 mm and wall thicknesses of 2.25—5.5 mm. The composite tubes were cold drawn to an outside diameter of 39.5 mm, a wall thickness of 12.5 mm, and cladding thickness of 2—5 mm, cut into shorter pieces, and cold extruded into 16 x 1 mm tubes. The extruded tubes had high surface quality and dimensions well within the limits specified by GOST 1947-56 for cold-rolled and cold-drawn aluminum-alloy tubes. It was observed, however, that the front end of the extruded tubes consisted of aluminum alloy (inner tube material) only, and the rear end, of aluminum (cladding material) only. The length of the front portion depends on the original

Card 1/3 UDC: 621.986

(prior to cold extrusion) thickness of the cladding and varies from 120—175 mm at a cladding thickness of 2 mm, to 50—73 mm at a cladding thickness of 5 mm. The

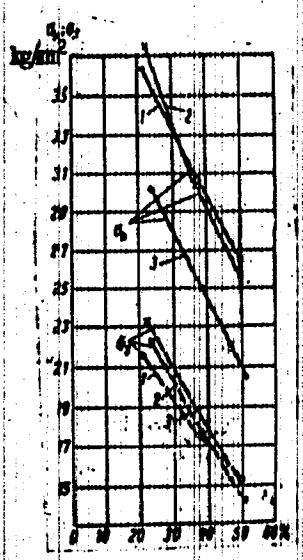

Fig. 1. Tensile (δ_b) and yield (δ_s) strength of heat-treated aluminum-clad D16 (1), D1 (2), and AV (3), aluminum-alloy tubes versus thickness of cladding

L 20765-66
ACC NR: AP6009628

length of the rear portion, consisting of aluminum only, did not exceed the usual length of discard. In the middle portion of the tube, the actual thickness of the cladding was very close to the theoretical. The strength of heat-treated (solution annealed and aged) tubes decreased with increasing thickness of the cladding (see Fig. 1). Ductility was not affected. Microscopic examination of heat-treated tubes revealed that cold extrusion produces a perfect bond between the base alloys and cladding. Orig. art. has: 5 figures and 2 tables. [DV]

SUB CODE: 13, 11/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 4224

Card 3/3

ACC NR: AP6032531 SOURCE CODE: UR/0413/66/000/017/0132/0132

INVENTOR: Gil'dengorn, M. S.; Roytbarg, L. Kh.

ORG: none

TITLE: Method of producing clad articles. Class 49, No. 185671

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 132

TOPIC TAGS: metal cladding, structural shape cladding, tube cladding, STRUCTURAL HARDWARE

ABSTRACT: This Author Certificate introduces a method of producing clad articles, mainly structural shapes and tubes, by simultaneously extruding the base and cladding materials through a die. To expand the range of metals which can be bonded and to shorten the production time, extrusion is done at room temperature at an extrusion pressure increased to 150 kg/mm^2 and higher.

SUB CODE: 11, 13/ SUBM DATE: 30Dec63/

Card 1/1 UDC: 621.774.38:621.777

ACC NR: AP7001363 (A) SOURCE CODE: UR/0413/66/000/021/0023/0023

INVENTOR: Gil'dengorn, M. S.; Ustinov, V. I.

ORG: none

TITLE: Tool for extrusion of clad articles. Class 7, No. 187714

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 23

TOPIC TAGS: extrusion, extrusion tool, extrusion press, clad article extrusion

ABSTRACT: This Author Certificate introduces a tool set for extrusion of clad articles. The set includes an outer container which receives the hollow ingot; an inner

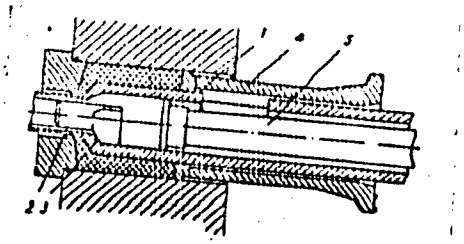

Fig. 1. Tool set

Card 1/2

UDC: 621.774.38.06:62-419.4

ACC NR: AP7001363

container which receives a solid ingot and is located inside a stationary container; and a die. For extrusion of hollow articles, such as tubes with internal cladding, the front part of inner container 1 (see Fig. 1) has mandrel 2 with a holder resting on step 3 inside the container. The ram has two parts: the external (4) for extruding a hollow ingot from the outer container, and the internal (5) for extruding a solid ingot from the inner container. Orig. art. has: [ND]
1 figure.

SUB CODE: 13/ SUBM DATE: 120ct63/ ATD PRESS: 5110

Card 2/2

GIL'DENSHIOL'D, R.S., mladshiy nauchnyy sotrudnik

Maximum permissible concentration of carbon disulfide in the air of residential districts. Gig. i san. 24 no.6:3-8 Je '59. (MIRA 12:8)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F.Erismana Ministerstva zdravookhraneniya RSFSR.

(CARBON DISULFIDE
maximum permissible concentration in atmospheric air of residential districts (Rus))
(AIR POLLUTION
by carbon disulfide, maximum permissible concentration in atmospheric air of residential districts (Rus))

GIL'DENSKIOL'D, R. S. Cand Med Sci — (diss) "Data concerning the Bases for the Maximum Permissible Single Concentration of Carbon Bisulfide in the Atmosphere (Experimental Data)," Moscow, 1960, 12 pp, 250 copies (First Moscow Medical Institute im I. M. Sechenov) (KL, 47/60, 106)

GIL'DENSKIOL'D, R.S.

Materials toward establishing the permissible limit of the maximum single concentration of carbon disulfide in the air. Uch. zap. Mosk. nauch.-issl. inst. san. i gig. no.6:11-15 '60. (MIRA 14:11)
(CARBON DISULFIDE) (AIR—ANALYSIS)

GIL'DENSKIOL'D, R.S.; ETING, S.V.

Improved gas pipette for prolonged air sample gathering. Uch. zap. Mosk. nauch.-issl. inst. san. i gig. no.6:60-61 '61. (MIRA 14:11)
(AIR SAMPLING APPARATUS)

S/169/62/000/004/020/103
D228/D302

AUTHORS: Gil'denskiol'd, R. S. and Minayev, A. A.

TITLE: Gravimetric method of determining dust in the atmosphere with the use of a filter and ФПП-15-1.5 (FPP-15-1.5) cloth

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 4, 1962, 10, abstract 4B75 (Gigiyena i sanitariya, no. 1, 1962, 40-44)

TEXT: A method is described for determining the dust content of air with the help of filters and FPP-15-1.5 cloth, obtainable by means of electrostatic spinning. The constant electrification of the cloth promotes the settling of aerosol particles upon its surface. The small weight of the cloth itself allows microweighing to be carried out. The results of the technique's verification and of its comparison with other methods are given. [Abstracter's note: Complete translation.]

Card 1/1

GIL'DENSKIOL'D, R.S., kand.med.nauk

Revision of the maximum permissible single concentration of carbon disulfide in the air. Pred.dop.kontsent.atmosf.zagr. no.6:49-67 '62.

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta gigiyeny imeni F.F.Erismana.
(AIR--POLLUTION) (CARBON DISULFIDE--PHYSIOLOGICAL EFFECT)

AIKHTER, B.V.; GIL'DENSKIOL'D, R.S.; STYAZHKIN, V.M.

Distribution of surface concentrations of sulfur dioxide and ashes in the vicinity of a thermal power plant. Trudy GGO no.158:84-87 '64. (MIRA 17:9)

ONIKUL, P.[illegible] ZARIPOVA, G.A.; RIKHTER, B.V. GIL'DENSKIOL'D, R.F.

Results of the analysis of experimental data characterizing the distribution of atmospheric pollution near thermal electric power stations. Trudy GGO no.177:53-63. '65.

(MIRA 18:8)

GIL'DENSON, M. I.

1A 1/49T33

USSR/Engineering Apr 48
Boilers
Heaters

"A Small Domestic Watertube Boiler," M. I. Gil'denson, Engr, 4 pp

"Energet Byul" No 4

Describes oil burning boiler installed for heating a laboratory by natural circulation. Tubes are of hairpin type 46/51 mm diameter, working pressure 5 ats, evaporation 150-200 kg/hr, efficiency 70%. Gives sectional elevations and trial figures.

1/49T33

GIL'DENSON, M. I.

PA 161T53

USSR/Engineering - Purifiers, Water Boilers Mar 50

"Single-Phase Soda-Lime Water Purifier for Boilers of Petroleum Enterprises," M. I. Gil'denson, 5 pp

"Energet Byul" No 3

Most petroleum enterprises use unprocessed water in their boilers because of complicated structure and expense of water purifiers. Describes two simple apparatuses, one in use since 1947. Water from any source can be softened. Includes diagrams of apparatus and analyses of water before and after purification.

161T53

GIL'DENSON, M.I.

Flameless gas combustion in furnaces of steam boilers of the locomobile type. Trudy Giprovostoknefti no.1:416-432 '58. (MIRA 13:9)

(Gas, Natural) (Combustion)

GIL'DENSON, M.I.

Small-size soda-lime installation for low capacity boilers. Trudy Giprovostoknefti no.1:432-440 '58. (MIRA 13:9)
(Water--Softening)

GIL'DERMAN, Yu.I.

Imbedding theorems for abstract functions. Dokl. AN SSSR 140 no.4:743-745 O '61. (MIRA 14:9)

1. Institut matematiki s vychislitel'nym tsentrom Sibirskogo otdeleniya Akademii nauk SSSR. Predstavleno akademikom S.L.Sobolevym.
(Functions)

GIL'DERMAN, Yu.I.

Fourier transformation for abstract functions of sets. Dokl. AN SSSR 144 no.4:703-705 Je '62. (MIRA 15:5)

1. Institut matematiki s vychislitel'nym tsentrom Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom S.L.Sobolevym.
(Fourier transformations) (Aggregates)

GIL'DERMAN, Yu.I.

Abstract functions of sets and S.L.Sobolev's imbedding theorems. Dokl. AN SSSR 144 no.5:962-964 Je '62. (MIRA 15:6)

1. Institut matematiki s vychislitel'nym tsentrom Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom S.L.Sobolevym.
(Numerical functions) (Topology)

GIL'DERMAN, Yu. I.

Dissertation defended for the degree of Candidate of Physicomathematical Sciences at the Joint Scientific Council on Physicomathematical and Technical Sciences; Siberian Branch

"Several Properties of Abstract Functions of Sets and the S.L. Sobolev Enclosure Theorems."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

GIL'DERMAN, Yu.I.; KOROTKOV, V.B.

General type of perfectly continuous operators acting from an L_p-space toward a B-space X. Sib.mat.zhur. 4 no.6:1426-1430 N-D '63. (MIRA 17:9)

KOROTKOV, V.B.; GIL'DERMAN, Yu.I.

Fourier transform for abstract functions of sets. Sib. mat. zhur. 5 no.4:844-852 Jl-Ag '64 (MIRA 17:8)

GIL'DERMAN, Yu.I.

Generalized differentiation of additive [illegible]
Sib. mat. zhur. 6 no.4:727-736 Jl-Ag '65. (MIRA 18:10)

ACC NR: AT6033087 SOURCE CODE: UR/2582/66/000/016/0203/0215

AUTHOR: Gil'derman, Yu. I. (Novosibirsk)

ORG: none

TITLE: A coexistence model for two biological species

SOURCE: Problemy kibernetiki, no. 16, Moscow, 1966, 203-215

TOPIC TAGS: biologic ecology, biologic reproduction, Volterra equation, statistics

ABSTRACT: On employing Volterra's model as the point of departure, the author considers the system

$$\left.\begin{aligned}\frac{dN_1}{dt} &= [a(t)-\gamma_1 N_2]N_1,\\ \frac{dN_2}{dt} &= (-\varepsilon_2+\gamma_2 N_1)N_2,\end{aligned}\right\} \qquad (1)$$

where $N_1(t)$ is the victim population at (1) time instant t; $N_2(t)$ is the predator population at

Card 1/2

ACC NR: AT6033087

the time instant t; $\epsilon_1, \epsilon_2, \gamma_1, \gamma_2$ are positive constants; ϵ_1 is the coefficient of natural increase in the victim population; γ_1 is the coefficient of rapacity of the predator; ϵ_2 is the coefficient of natural decrease in the predator population; and γ_2 is the coefficient of increase in the predator population (due to preying on the victim) and where the function a(t) is specified as follows: We separate the time axis $0 \leq t < \infty$ by the half-open intervals of two species: E_k^+ and E_k^- $(k = 1, 2, \ldots)$ so that the end $E_k^{\mp}$ of each interval coincides with the beginning $E_{k+1}^{\mp}$ of the next interval; all intervals $E_k^+ (E_k^-)$ have the same lengths $mE_k^+ = T^+ (mE_k^- = T^-)$ (which will be termed (+)- periods and (-)-periods). The dynamics of coexistence of the two species is analyzed on the assumption that the victim reproduces seasonally, during the (+)-periods, and the predator reproduces continuously. I. e. during the (-)- periods there occurs no increase in the victim population. It is shown that a mathematical solution of the problem can be biologically meaningful only when either the natural increase in the victim population is large or the victims' deaths due to devouring by predators are relatively few. "The author owes his interest in problems of this kind to Igor' Andreyevich Poletayev."

SUB CODE: 06, 12 / SUBM DATE: 13Mar65/ ORIG REF: 003/ OTH REF: 001

Card 2/2

GIL'DIN, M.I., inzh.

Some problems in the gas distribution in cities. Bezop.truda v prom. 6 no.3:17-18 Mr '62. (MIRA 15:3)
(Gas distribution—Safety measures)

GIL'DIN, N.M.; MAVRINA, Z.G., dotsent; ASATURYAN, D.G.

Treatment of acute thyroiditis and strumitis with adrenocorticotropin and roentgen rays. Terap.arkh. 32 no.9:70-76 '60. (MIRA 14:1)

1. Iz 2-y kafedry terapii (zav. - dotsent G.R. Britanishskiy) Instituta usovershenstvovaniya vrachey imeni S.M. Kirova.
(THYROID GLAND--DISEASES) (ACTH) (X RAYS--THERAPEUTIC USE)

GIL'DIN, S. R.

Childrens' Infections Section, Uzbekistan Inst. of Epidemiol. and Microbiol.

"The Natural Immunity Against Diptheria in Remote Localities of Uzbekistan."

Zhur. Mikrobiol., Epidemiol., i Immunobiol., No. 6, 1944.

GIL'DIN, S.R., SHTERNGOL'D, YE.YA, ASHMARIN, I.I., ZHDANOVA, L.D., ZVAGEL'SKAYA, V.N., KALININA, YE. F., LOSKUTOVA, N. N., PYZHOVA, M. M., AND SLAVINA, A. M.

Further Observations on the Effectiveness of Subcutaneous Vaccination Against Dysentery

Shows that the epidemiologic effectiveness of subcutaneous vaccination against dysentery is very low and has no advantages over the enteral method. (RZhBiol, No. 7, 1955) Vopr. Kravevoy Patologii AN UzSSR, 3, 1953, 51-52

SO: Sum, No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)

GIL'DIN, S.P.; PYZHOVA, M.I.

Studying the immunological reactivity of children toward a refined and precipitated scarlet fever toxin. Vop.kraev.pat. no.4:57-66 '54. (MLRA 9:12)

(UZBEKISTAN--SCARLET FEVER--PREVENTIVE INOCULATION)
(TOXINS AND ANTITOXINS)

ACC NR: AP6021594 (N) SOURCE CODE: UR/0402/66/000/003/0375/0375

AUTHOR: Morogova, V. M.; Gil'dina, S. S.; Isupov, F. A.; Akatova, E. N.

ORG: Ufimsk Vaccine and Sera Institute (Ufa nauchno-issledovatel'skiy institut vaktsin i syvorotok)

TITLE: Experimental production of antirabies vaccine purified by freon 113

SOURCE: Voprosy virusologii, no. 3, 1966, 375

TOPIC TAGS: production method, vaccine, rabies, antirabies vaccine, purified vaccine, Freon 113

ABSTRACT:
The Ufa Vaccine and Sera Institute has announced a new method of obtaining high-purity rabies vaccine from a sheep-brain suspension using freon 113 to remove unwanted proteins while preserving the immunogenicity and stability of the purified vaccine. [W.A. 50; CBE No. 10]

SUB CODE: 06/ SUBM DATE: none/

Card 1/1

LEVIN, S.M., LIBERMAN, L.M., KOTOK, M.B., GIL'DINER, E.B. (Deceased)

Technical Normalization, Organization and Planning of Labor in Ferrous Metallurgy, Moscow, 1950

MANIKHAS, M.G.; GIL'DINSON, E.B.; KOROTETSKAYA, G.I.

Temporary loss of working capacity in skin diseases. Vest. derm. i ven. 38 no.11:58-60 N '64. (MIRA 18:4)

1. Rybinskiy forodskoy kozhno-venerologicheskiy dispanser (glavnyy vrach M.G.Manikhas).

TIKHONOV; GIL'DINSON

Efficiency promoter Ivan Kononovich Khibo. Mashinostroitel' no.6:38 Je '60. (MIRA 13:8)
(Technological innovations)

GIL'DINSON, Ye. M.

Device for the removal of die-stamped parts. Kuz.-shtam. proizv. 2 no. 5:3 of cover. My '60. (MIRA 14:3)
(Sheet-metal work)

GIL'DINSON, Ye.M.

Cut-off tool. Stan. i instr. 31 no.9:40 S '60. (MIRA 13:9)
(Metal-Cutting tools)

GIL'DINSON, Ye.M.

Useful suggestion. Mashinostroitel' no.3:24-25 Mr '61. (MIRA 14:3)
(Screw cutting)